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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,088

02/02/2005

Thomas Poschmann

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EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1724

MAIL DATE

DELIVERY MODE

07/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/523,088

Applicant(s)

POSCHMANN, THOMAS

Examiner

Jason M. Greene

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 27-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-53 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/2/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: The specification makes reference to cancelled claims 1 and 14 in paragraphs [0006] and [0011]. The Examiner suggests deleting the references to the claims and substituting the desired text in place thereof.

Appropriate correction is required.

### ***Claims***

2. With regard to claim 41, the Examiner suggests Applicants rewrite the phrases "providing each the two membrane" in lines 9 and 11 as "providing each of the two membrane" to correct an apparent typographical error and to improve the readability of the claim language.

3. Also with regard to claim 41, the Examiner suggests Applicants rewrite the phrase "frames two adjacent" in line 13 as "frames of two adjacent" to correct an apparent typographical error and to improve the readability of the claim language.

### ***Allowable Subject Matter***

4. Claims 27-53 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 27-40, De Rosset (US 2,824,620) discloses a membrane module for separating hydrogen from a reformat gas and having a plurality of planar membrane cells each comprising two hydrogen selective planar membranes (3,4), two flat membrane frames (gaskets, not shown, see col. 6, lines 12-18), each surrounding one of the two membranes, an air permeable spacer layer (7) disposed between the two membranes and configured to discharge permeate gas (15), a feed frame (9) surrounding a feed space for the reformat gas adjacent one of the two membranes and bearing closely against the edges of the membrane frame, the feed frame having external dimensions corresponding to external dimensions of the membrane frames and forming, together with the membrane frames, a stack having planar side faces, wherein the feed frame includes second (for 11) and third (for 10) openings towards side faces of the stack, and wherein the membrane frames are connected together in a gastight manner in Figs. 2 and 3 and col. 5, line 65 to col. 6, line 58.

The prior art made of record does not teach or fairly suggest the membrane module of claim 27 wherein the two flat membrane frames each have a raised edge, each of the frames being disposed so that the raised edges face one another and

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contact one another, wherein the membrane frames each include a first opening toward a side of the stack, and wherein the membrane frames are connected together in a gastight manner except for the first, second and third openings.

With regard to claims 41-53, the prior art made of record does not teach or fairly suggest the method of claim 41 comprising providing each of the two membrane frames of each membrane cell with raised edges directed toward one another and in contact with one another, providing each of the two membrane frames with at least one first opening toward a side face of the stack, fitting the feed frame tightly onto the edges of the membrane frames of two adjacent membrane cells except for second and third openings in the feed frame toward side faces of the stack, and connecting by one of soldering and welding the outer sides of all the membrane frames and feed frames in a gas tight manner except for the first, second and third openings.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Edlund et al. '306, Oku et al., Saijo et al., Beisswenger et al., Sato et al. and Frost references disclose similar membrane modules.

7. This application is in condition for allowance except for the above noted formal matters.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Jason M. Greene  
Primary Examiner  
Art Unit 1724

  
7/9/07

jmg  
July 9, 2007